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None

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A4B

(54) Insert for a shelf in the inside door
of a refrigerator

(57) An insert (7) for a shelf (5) in the
inside door (2) of a refrigerator (1)
comprises an element of angle section
having a vertical plate (10) and a
horizontal plate (14) and is preferably
made of plastic material. The part of
angle section is insertable into the shelf
and connected to the inner surface
thereof. A bar (16), which has slidable
sliders (18), is combined with the
vertical plate (10) of the insert. In either
lateral flank of the vertical plate of the
insert there is arranged a groove (12),
and on the facing inner surfaces (8) of
the shelves there are opposite tongues
which engage in the grooves when the
insert is inserted in the shelf.

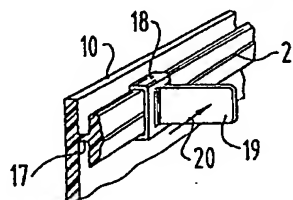
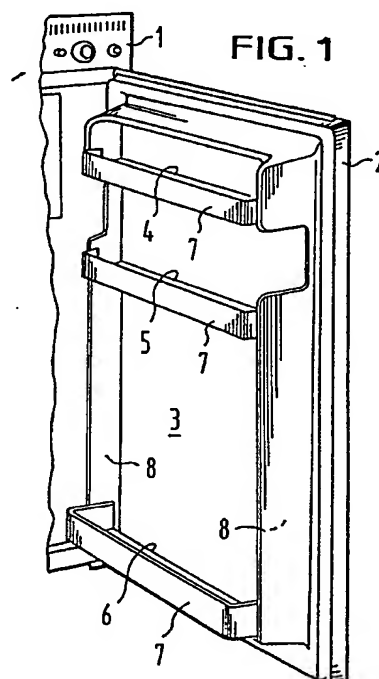
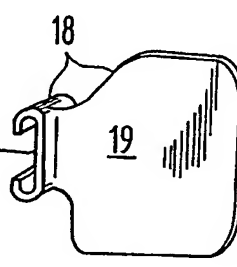
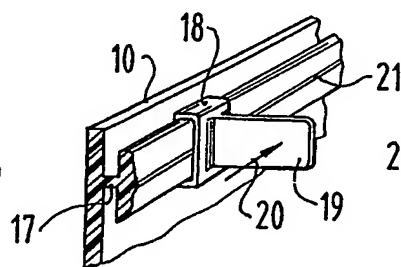
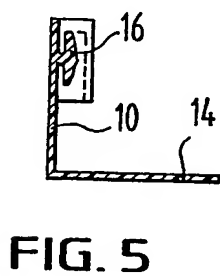
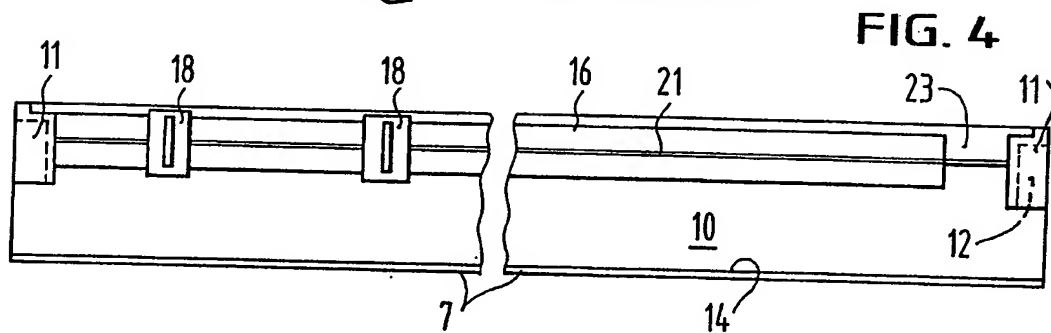
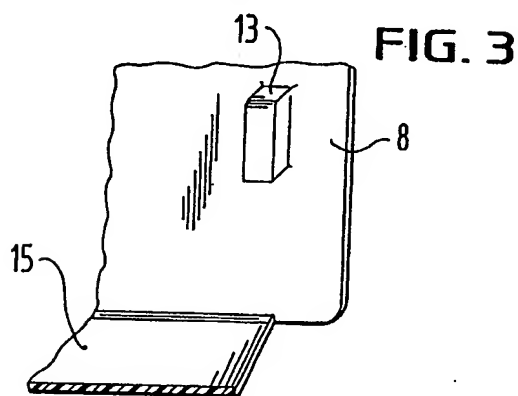
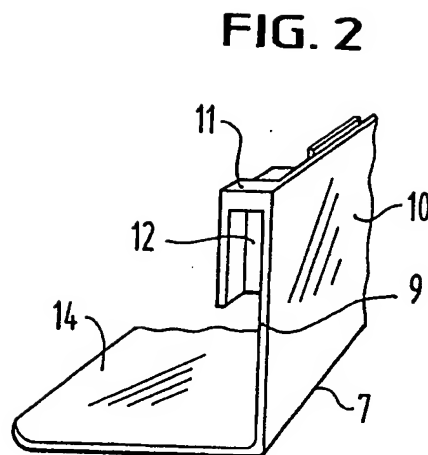
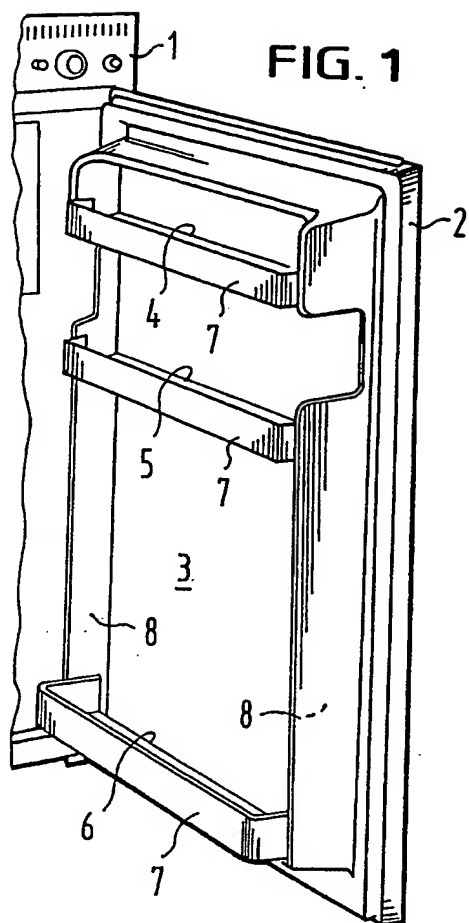


FIG. 6

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SPECIFICATION

Insert for a shelf in the inside door of a refrigerator

5 This invention relates to an insert for an interior shelf of a refrigerator door, particularly of refrigerators such as are used in caravans, house bars and in guest rooms of hotels and the like. The doors of such refrigerators comprise an outer, plane shea-
 10 thing and a shaped panel facing the interior of the refrigerator, the shaped panel usually comprising a plurality of shelves for bottles, jars, beakers, eggs, and the like. It is known to arrange inserts in these shelves, e.g. inserts for eggs, bottles and beakers, so as to provide a better support for these articles in the refrigerator and also to arrange them neatly.

According to a first aspect of the present invention, an insert for an interior shelf of a refrigerator door comprises an elongate element of angle section having a vertical limb and a horizontal limb, the vertical limb carrying a bar on which are mounted slidable article-separators.

According to a second aspect of the present invention, a refrigerator door has an interior shelf having secured therein an insert according to the first aspect.

Preferably, in order to safely support the insert in the shelf, the vertical limb of the insert has at each end a groove and the door carries tongues engaged in the grooves. Thus the insert can be safely prevented from falling out, and screw connections may be avoided.

The invention may be carried into practice in various ways but one refrigerator door and an insert therefor will now be described by way of example with reference to the accompanying drawing, in which:

Figure 1 shows the refrigerator door with shelves;

40 *Figure 2* is a lateral perspective view of the insert;

Figure 3 shows a segment of a lateral wall part of the shelf of the refrigerator;

Figure 4 is a rear elevation of the insert shown in *Figure 2*, looking towards the bar;

45 *Figure 5* is a cross-section through the insert shown in *Figure 4*;

Figure 6 is a perspective view of the bar of the insert with a slider; and

50 *Figure 7* shows an alternative construction of slider.

The refrigerator 1 shown in *Figure 1* has a refrigerator door 2, on the inner shaped panel of which there are (in the present case) moulded three
 55 shelves 4 to 6. In the upper shelf there are preferably disposed beakers, eggs, and the like, whereas in the middle shelf there may be placed somewhat larger objects such as milk-cartons, smaller bottles and the like. Finally, the lowermost of the shelves, 60 which has a somewhat larger volume, serves for receiving high and larger objects. Owing to the design of the shaped panel 3 the shelves are open towards the interior of the refrigerator. Inserts 7 serve as terminal members of the shelves. These
 65 inserts are fixed to the facing inner surfaces 8 of

the shelves, opposite to each other. Each insert has a lower horizontal limb or plate and a vertical limb or plate 10.

70 As particularly to be seen from *Figure 2*, the insert 7 is provided with lugs 11 at the lateral flanks 9 of the vertical plate 10, into each of which lugs 11 there is moulded a groove 12.

75 *Figure 3* shows the laterally facing vertical surface 8 of a shelf, e.g. 5. As can be seen, this carries a tongue 13. The tongues are so dimensioned that the grooves 12 at the opposite ends of the insert engage the tongues 13 on either side of the shelf when the insert is frictionally inserted (force-fit) into the shelf. When the insert is pushed in, the
 80 horizontal limb or plate 14 (*Figure 2*) will be stopped by the upper surface of the shelf 15, thus resting thereon. The insert is now safely supported in the shelf.

As can be seen from the *Figures 4* to 6, a bar 16 extends along the inner surface of the vertical plate 10 of the insert 7, which bar 16 is connected to and integrally moulded with the plate 10 by means of a web 17. On the bar there are provided slidable article-separators or sliders 18 which, however, may be displaced only when the tongue 19 of the slider is perpendicular to the bar. If a force acts upon the tongue, shown e.g. by the arrow 20 in *Figure 6*, a torque will arise at the slider. Further, a thin rib 21, extending over the whole length of the bar 16, will get into engagement with the guide slipper portion 22 of the slider when the latter is tilted, so that the slider will then closely engage and grip the bar. When an object, e.g. a bottle, is placed between two sliders, and said sliders are pressed towards each other, then both sliders will be tilted. As a result the bottle will be safely supported even if the refrigerator is shaken, e.g. during the travelling motion of a trailer.

As particularly to be seen from *Figure 4*, with the exception of a clearance 23 the bar 16 extends between the two lugs 11 of the insert 7, the clearance serving for inserting the sliders upon the bar 16.

As shown in *Figure 7*, the tongues 19 of the sliders 18 may have any desired shape. The tongue shown in the drawing is leaf-shaped; however, it may alternatively be spoon-like, or it may be arranged e.g. horizontally and have a circular aperture for inserting objects therein.

115 CLAIMS

1. An insert for an interior shelf of a refrigerator door, the insert comprising an elongate element of angle section having a vertical limb and a horizontal limb, the vertical limb carrying a bar, on which are mounted slidable article-separators.

2. An insert as claimed in Claim 1 in which the bar has a clearance for inserting the sliders.

3. An insert as claimed in Claim 1 or Claim 2 in which the bar carries an outwardly projecting separator-engaging rib.

4. An insert as claimed in Claim 3 in which each slider is dimensioned to provide clearance with the rib when the slider is square to the bar and to be engaged by the bar to resist sliding

thereof when the separator is tilted relative to the bar.

5. An insert as claimed in Claim 3 or Claim 4 in which the rib extends over the whole length of the bar along the middle thereof.

6. An insert as claimed in any of the preceding claims which includes a web connecting the bar to the vertical limb.

7. An insert as claimed in any of the preceding claims which is a unitary moulded plastics article.

8. An insert for an interior shelf of a refrigerator door, substantially as described herein with reference to the accompanying drawings.

9. A refrigerator door having an interior shelf, the shelf having secured therein an insert as claimed in any of the preceding claims.

10. A refrigerator as claimed in Claim 9 in which the vertical limb of the insert has at each end a groove and the door carries tongues engaged in the grooves.

11. A refrigerator as claimed in Claim 10 in which the insert is as claimed in Claim 2, the grooves being formed in projections on the surface of the vertical limb of the insert carrying the bar and the grooves facing away from each other, the bar extending from one of the projections and stopping short of the other projection to provide the said clearance.

12. A combination comprising a refrigerator door and shelf insert, the combination being substantially as described herein with reference to the accompanying drawings.

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